FYP Ideas - Fall 2023

1. FYP Title

FYP Highlights

2. SCIENTO-VISUALS

Sciento-Visuals is a dashboard-based web application that provides users a platform for extracting versatile and dynamic Scientometrics and the prediction of Scientometrics using Smart Visualizations. An interface is provided to perform customized queries, which are used by researchers and officials responsible for scientometric-based decisions.

Tools, Languages/ Technologies: XML, CSV, Python, MS SQL Server Management Studio, MS Shell, Power BI C Service, OLAP Cube/ Web Application, DBLP dataset, ETL, Data Warehouse, OLAP, Data Mining

3. MapVenture

This project aims to develop a game that will provide each player a unique experience and will give them a reason to play it again and again. MapVenture can be summarized as follows:
1. Generation of Unique Level
Dynamic levels with aim to give unique experience to each player
2. Generation of levels with different design elements.
This part concerns with the designing of different elements like shape, sound, color scheme and background.
3. Variable difficulty according to player expertise
Gathering the data from the gameplay of the user into adjusting the difficulty level dynamically and keeping an aspect of challenge throughout the game.

Tools, Languages/ Technologies: Unity, Python, C#

4. What’sNow? Personalized Recommendation System

Personalized Recommendation System provides the user with a platform that would be able to recommend him movies to watch as per his interest and recommend the user about the movies in a specific category. Keeping in view the busy schedules and timelessness of audience, this recommended system will auto fetch the data of same category like if someone searches a movie, season or a book which lies in the category of fight, crime and fiction, the system will auto recommend the content of same category and most importantly, the advertisement will also be given according to the cache.

Tools, Languages/ Technologies: Python, Anaconda, Selinuim, Beatiful Soup, Numpy, Scikit

5. Fit-me

Fit-me is an application with an integrated intelligent Chatbot, helpful in recommending clothes according to the user's personal preferences which best fit their body types and saves them a lot of time and effort. It can be used personally by any gender (male/female) interested in knowing their correct size according to their body type. It can recommend clothes according to sizes and personal preferences, but does not deal with 3D models for clothing testing.

Tools, Languages/ Technologies: Python, RASA, Anaconda, HTMLz, Google Cloud Platform, Flask, Logistic Regression, K Neighbors Classifier, Random Forest Classifier.

6. VSEEK "Video segment localization Via language query"

This project is currently aimed at localizing different segments of the videos based on the different content contained within. This will make searching for the desired contents much quicker. The main idea of the project includes cideo captioning based on events happening in the video, a video search engine capable of searching videos queried, highlighting the video status bar for visual depiction of the desired content, and navigation through the video on the user's preference of desired content.

Tools, Languages/ Technologies: Xamp, Php, Python, SQLite, RESNET 34, Python, JSON

7. ConVet "A Platform to Connect Retired Personnel"

ConVet is an intelligent system which aims to provide a social platform for retired professionals to give the positive vibe of life. It is basically a social platform for connectivity. Apart from connectivity, users will also be able to create a professional profile, build a better network by posts, comments, chatting and connecting veterans and organizations, starting new services, and sharing thoughts among closed people and in public.

Tools, Languages/ Technologies: Html5, CSS, Angular, Express, Bootstrap, JQuery, Visual Code, Visual Studio, JSON, API, MONGODB

8. Movie Dock "Online Movies Recommendation Website"

Movie Dock is an application which provides the movie recommendations to the user using his ratings and reviews. The project is based on user personalized movies, user's emotional profile building from given reviews and movie's profiling based on their topics extracted from genre. Emotion based recommendations on hybrid approach are given through collaborative and content-based filtering.

Tools, Languages/ Technologies: CNN, LSTM

9. VisioAssist

VisioAssist is a project that builds an application that helps visually impaired persons to better perceive the environment around them. The project makes use of computer vision software to implement scene detection. The project also heavily relies on Optical Character Recognition (OCR) to identify English language and numerical text. The application makes use of high contrast and big text so that it is easy for the visually impaired user to identify application features.

Tools, Languages/ Technologies: OCR, Neural Network, Machine Learning

10. Vital Sign Prediction

Vital Sign Prediction is a system where a patient can monitor the vital signs by wearing a smart wearable device and with application to process the vital signs data. This is done so that when the person-situation gets critical, a timely action can be taken to save a person's life. The data which is collected from the smart wearable device is sent to the mobile application and that sends the data to a server or cloud. The server responds to the application in the shape of an alert if the person's condition gets critical.

Tools, Languages/ Technologies: Andriod Mobile App, Machine Learning

11. FAST ACCESS

FAST ACCESS is an AI based Android/Desktop application that helps students and teachers of FAST University in communication, management and synchronization. The app has three kinds of users; students, teachers and the admin. These users will access the app through their accounts. The app helps in generating a timetable feasible for everyone. The app provides the admin with the facility of allocation of rooms for rescheduled classes and meetings according to their availability. The app is beneficial to students as they can select a clash free timetable as well.

Tools, Languages/ Technologies: Flutter, Firebase, SQLite, ML Models, Python, .NET, Visual Studio

12. Multidimensional Analysis of Diabetic Retinopathy using Image Processing (MADRIP)

MADRIP is a system that focuses in aiding the diagnosis of diabetic retinopathy and identifying its stages, enabling the eye specialists to have pointers to focus on the affected areas so that they can provide the appropriate treatment before further complications. The visualization of the disease trends in the analytical report helps the concerned authorities to help control the disease.

Tools, Languages/ Technologies: Image Processing, Hadoop, Web Development, Feature Extraction

13. MOSS

MOSS is an android app that focuses on real time surveillance using everyday smartphones by detecting life threatening scenarios using the smartphones’ cameras and notifying the user via an internet connection.

Tools, Languages/ Technologies: RCNN ResnetV2, Firebase, Tensorflow, Anaconda, Android

14. A.B.C App

A.B.C App is an AR Based Coloring Application which allows children to have a real time view of their coloring through 3D models. This application is for kids of ages 4-9, for their interactive learning, enhanced cognitive abilities and enjoyable experience by allowing the children to have a real time view of their coloring through 3D models.

Tools, Languages/ Technologies: Android, AR Model, 3D Objects Modeling

15. PhysioFit

PhysioFit is an application that will assist new users with their workout via helping them correct their posture for each particular exercise, as well as assist patients in doing rehabilitation movements, as per instructed by the doctors (via maintaining a client server framework. The problems that are being focused on in this project are exercise routine, correction of posture, and virtual rehabilitation planning.

Tools, Languages/ Technologies: Tensorflow, Java API, C++ API, Android Neural Netwrok API, Android

16. Smart Buddy

Smart Buddy is an android application which provides a learning environment to the students. A senior student can teach a junior student physically (offline) as well as virtually (online). A junior, through this application can see a list of senior students who are willing to teach and can hire the one who is available. Both the students can communicate directly through Smart Buddy. They can decide the location and time through application. A senior's performance will be evaluated by the teachers who are linked with Smart buddy.

Tools, Languages/ Technologies: Android, SDK Tools, Git, Github

17. FarmEase by using IOT devices

This project is based on designing a real-time system for the FarmEase by using IOT devices in agriculture that would ultimately provide easy monitoring and better production of crops. This is done for the better sensing and monitoring of wheat production which will be monitored with sensors integrated with application.

Tools, Languages/ Technologies: Pycno Sensors, SenseH2TM, Python(Tenserflow) Sockets, Android, MySQL, SQ
JSON, PHP, GPS, Camera